

What is Claimed is:

1. An ink cartridge comprising:

a cartridge main body having a first case and a second case joined to the first case;

and

at least first and second ink bags each comprising a bag main body storing ink and an outlet through which the ink can be discharged from the bag main body, the first and second ink bags being housed by the first case and the second case,

wherein when the first case and the second case are joined, the outlets of the first and second ink bags are pressed against each other by the first case and the second case.

2. The ink cartridge as claimed in claim 1, wherein the first case is a case main body comprising a bottom plate portion and a side plate portion with an opening on a top thereof for housing the first and second ink bags, and the second case is a case lid for covering the opening of the case main body.

3. The ink cartridge as claimed in claim 2, wherein a partition plate for separating a housing space of the first ink bag and a housing space of the second ink bag is attached to a predetermined position of the case main body.

4. The ink cartridge as claimed in claim 3, wherein the partition plate is placed movably in a thickness direction of the case main body along the side plate portion, and further wherein the case main body and the case lid comprise partition plate clamp faces for defining the position of the partition plate by clamping the partition plate.

1 5. The ink cartridge as claimed in claim 2, wherein a waste-ink holding member, for storing
2 waste ink poured therein from the outside thereof, is attached to the case lid.

1 6. The ink cartridge as claimed in claim 2, wherein the case main body and the case lid
2 comprise ink outlet clamp faces for defining the positions of the ink outlets by clamping the
3 outlets, and at least one of the ink outlet clamp faces is elasticallydisplacable.

1 7. The ink cartridge as claimed in claim 6, whercin the ink outlets comprise contact portions
2 in contact with each other and clamp portions clamping the partition plate.

1 8. The ink cartridge as claimed in claim 3, wherein the first ink bag has a first detection plate
2 moved in a thickness direction of the first bag main body in response to the amount of ink
3 remaining in the first bag main body, and the second ink bag has a second detection plate
4 moved in a thickness direction of the second bag main body in response to the amount of ink
5 remaining in the second bag main body, wherein

6 first and second detection projections are extended in the thickness direction of the
7 first and second bag main bodies from side margins of the first and second detection plates,
8 and have tips projected from the rear of the case main body as the amounts of ink remaining
9 in the first and second ink bags decrease, and wherein

10 the first and second detection projections differ from each other at least in shape or
11 color.

1 9. The ink cartridge as claimed in claim 1, wherein the first case is a first ink cartridge for
2 housing the first ink bag and the second case is a second ink cartridge for housing the second
3 ink bag, further comprising a joint mechanism for detachably joining the first ink cartridge

4 and the second ink cartridge.

1 10. The ink cartridge as claimed in claim 9, wherein the first ink cartridge includes a waste-
2 ink holding member.

1 11. The ink cartridge as claimed in claim 9, wherein the joint mechanism has snap-fit parts
2 formed in a side portion of the first ink cartridge and in a side portion of the second ink
3 cartridge.

12. The ink cartridge as claimed in claim 9, wherein the second ink cartridge comprises a
recess into which the first ink cartridge can be fitted in the thickness direction.

13. The ink cartridge as claimed in claim 12, wherein the first ink bag has a first detection
plate moved in a thickness direction of the first bag main body in response to the amount of
ink remaining in the first bag main body, and the second ink bag has a second detection plate
moved in a thickness direction of the second bag main body in response to the amount of ink
remaining in the second bag main body,

wherein first and second detection projections are extended in the thickness direction
of the first and second bag main bodies from side margins of the first and second detection
plates, and have tips projected from the rear of the second ink cartridge as the amounts of ink
remaining in the first and second ink bags decrease, and
further wherein the first and second detection projections differ from each other at least in
shape or color.

1 14. The ink cartridge as claimed in claim 13, wherein the first ink cartridge is formed in a
2 side portion with a protection guide surrounding the first detection projection.

1 15. The ink cartridge as claimed in claim 8, wherein the first and second detection plates are
2 put on surfaces of the bag main bodies of the first and second ink bags, and the plane form of
3 each detection plate overlapping the corresponding bag main body is rectangular,

4 wherein the width dimension of each detection plate, measured in a direction along
5 the side where the ink outlets of the first and second ink bags are attached, is a value within
6 the range of 0.5 to 1.0 times the width dimension of the corresponding ink bag measured in
7 the direction along the side where the ink outlets of the first and second ink bags are attached,
8 and

9 further wherein the length dimension of each detection plate is a value within the
10 range of 0.4 to 0.8 times the length dimension of each ink bag.

1 16. The ink cartridge as claimed in claim 13, wherein the first and second detection plates are
2 put on surfaces of the bag main bodies of the first and second ink bags, and the plane form of
3 each detection plate overlapping the corresponding bag main body is rectangular,

4 wherein the width dimension of each detection plate, measured in a direction along
5 the side where the ink outlets of the first and second ink bags are attached, is a value within
6 the range of 0.5 to 1.0 times the width dimension of the corresponding ink bag measured in
7 the direction along the side where the ink outlets of the first and second ink bags are attached,
8 and

9 further wherein the length dimension of each detection plate is a value within the
10 range of 0.4 to 0.8 times the length dimension of each ink bag.

1 17. The ink cartridge as claimed in claim 15, wherein the ratio between: (i) the ratio between
2 the width dimensions of the first and second detection plates and the width dimensions of the
3 bag main bodies of the first and second ink bags; and (ii) the ratio between the length
4 dimension of each detection plate and the length dimension of the bag main body of each ink
5 bag, is within the range of 0.8 to 1.2.

1 18. The ink cartridge as claimed in claim 16, wherein the ratio between: (i) the ratio between
2 the width dimensions of the first and second detection plates and the width dimensions of the
3 bag main bodies of the first and second ink bags; and (ii) the ratio between the length
4 dimension of each detection plate and the length dimension of the bag main body of each ink
5 bag, is within the range of 0.8 to 1.2.

1 19. An ink cartridge comprising:

2 a plurality of ink cartridges including a first ink cartridge for housing a first ink bag
3 storing first ink, and a second ink cartridge for housing a second ink bag storing second ink of
4 a different color than the first ink, the ink cartridges being detachably joined by a joint
5 mechanism.

1 20. An ink jet printer comprising:

2 an ink cartridge having a plurality of ink cartridges including at least a first ink
3 cartridge for housing a first ink bag storing first ink, and a second ink cartridge for housing a
4 second ink bag storing second ink of a different color than the first ink, wherein one of said
5 first and second ink cartridges further includes a waste-ink holding member for storing waste
6 ink poured therein from the outside thereof, the plurality of ink cartridges being formed in
7 one piece by a joint mechanism for detachably joining the plurality of ink cartridges;

a placement section in which said ink cartridge detachably is placed; and

an ink jet head comprising a plurality of ink nozzle groups including a first ink nozzle group for ejecting the ink in the first ink bag of said ink cartridge placed in said placement section, and a second ink nozzle group for ejecting the ink in the second ink bag of said ink cartridge placed in said placement section, said ink jet head being adapted to execute any desired printing on record paper relatively moved

wherein the waste-ink holding member is placed in the cartridge having the smallest value resulting from dividing the amount of ink in the ink bag housed in each ink cartridge by the number of nozzles of the ink nozzle group corresponding to the ink bag.

21. The ink jet printer as claimed in claim 20, wherein the waste-ink holding member has a holding capacity in the range of 1 to 1.3 times a capacity found by multiplying (i) the volume of ink available to said ink jet head as the amount of ink stored in the ink cartridge in which the waste-ink holding member is placed, by (ii) the total number of nozzles contained in the plurality of ink nozzle groups divided by the number of the ink nozzle groups for ejecting ink in the ink cartridge having the waste-ink holding member.